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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,563	07/02/2003	Zongwen Liao	T-1239	5482
802	7590	07/11/2006	EXAMINER	
DELLETT & WALTERS P. O. BOX 82788 PORTLAND, OR 97282-0788			SAYALA, CHHAYA D	
			ART UNIT	PAPER NUMBER
			1761	

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/613,563	Applicant(s) LIAO ET AL.	
	Examiner C. SAYALA	Art Unit 1761	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/6/2006 has been entered.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-4, 7-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 now recites a "ratio of the release-controlling materials to a dry weight of the ammonium phosphate slurry is 3-35%". A ratio has no unit attached to it, it is a number. Also, the specification does not provide basis for such a "ratio". It appears that 3-35% is the amount of release-controlling materials based on the ammonium phosphate weight.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4, 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites a ratio, but provides the ratio as a percentage. Clarification is needed.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.. Claims 1, 3, 7-10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detroit (US Patent 4846871 or 5041153).

Detroit teaches grinding ammonium phosphate in 30% water (example II) and adding up to 5 wt% lignosulfonate to the fertilizer solution and then prilling the mixture. See col. 3, lines 10-70 in '153. (The disclosure of '871 is similar). See claims 6 and 8, which teach the embodiment of the present claims. See Example III which teaches granulation of the mixture of DAP and lignosulfonate.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 7-10, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischbein et al. (US Patent 5366534).

The patent teaches that ammonium phosphate (4-15%, line 65, col. 2) is ground to a fine powder, prewetted, and mixed with lignosulfonate in a high shear mixing device. The mixture is then granulated, dried and ground to the required size. See col. 3, lines 15+. Note the concentration of lignosulfonate at col. 4, lines 26. Also see the ratio of lignosulfonate to water at line 55-56 in col. 3. The patent does not teach a "slurry" or the amount of water obtained after mixing. However, the product obtained after granulation is dried. Furthermore, the patent controls the size of the granules of the product by controlling the water content. See col. 4, lines 37-44. Therefore even though the claims use a "slurry" and controls the water content before granulation and the patent controls water by controlling the wetting of the mixture and drying after the granulation, it would have been obvious that the mixture was in a water composition, that the steps are obvious, no specific order in steps being asserted by the claims, and the end product, which is dried granules, are the same and this would have been obvious to the person of ordinary skill in the art at the time the invention was made.

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Note that the water content upon condensing is not given, however, since the end product is the same from the same reactants, then it would have been obvious to control such parameters as water, and such would have been within the purview of the skilled worker.

6. Claims 1-4, 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohwer (US Pub. 2004/0099027) in view of Young (US Patent 3354096), RU 2165912 and Berry et al. (US Patent 4695387) and further in view of CN 1163250.

The Rohwer publication teaches that to a slurry of zeolite (10%), ammonium phosphate solution is added and dried, see page 2, paragraph [0021] and claims. The patent does not teach adding the phosphate as a powder, acidifying or that the slurry is granulated.

Young teaches that effective phosphate binding is obtained, at its strongest, at low pH values, between about 3.5 and 6.0 (see col. 4, lines 30-35). The patent teaches a zeolite slurry with ammonium phosphate. The wet mixture is then dried and pelleted (see col. 3, lines 57-62).

RU 2165912 teaches preparing granulating nitrogen phosphorus fertilizer, such as ammonium phosphate by neutralizing ammonia and phosphoric acid with sulfuric acid and applying this to zeolite. The mixture is dried and granulated.

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Berry et al. teach that a pH between 4 and 6 is an ideal range of operation for the zeolite adsorbent (see col. 3, lines 48-60), where the ammonia and phosphoric acid are reacted.

CN 1163250 discloses that the zeolite is crushed and compounded with ammonium phosphate and pelletized. It is disclosed as a fertilizer and the composition being synergistic.

To form a slurry from powdered ammonium phosphate would have been an obvious expedient because solutions and slurries are generally formed from solids or powders. To incorporate sulfuric acid with the zeolite would also have been obvious because, it was generally well known in the art at the time the invention was made that a low pH was very effective for zeolite-phosphate binding and the addition of sulfuric acid was also known. Amounts would have been obvious to one of ordinary skill in the art from those shown by the references. See Rohwer et al. in particular. Other parameters such as controlling the water content, are conditions of the process, shown by these references, and therefore within the ambit of ordinary skill to determine.

### ***Response to Arguments***

Applicant's arguments filed 6/6/2006 have been fully considered but they are not persuasive.

The Detroit patent has been criticized as follows:



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1. The preferred range of lignosulfonate is between 0.3-0.7% and all amounts shown by the patent (which is up to 5 wt% lignosulfonate), are not pertinent because such amounts reduce hardness.
2. The lignosulfonate was sprayed on the fertilizer or that the "timing of adding and mixing lignosulfonate and fertilizer" is different.

In response, it is well established that the "non-preferred" as well as the "preferred" portion of a reference is pertinent for what it teaches to one skilled in the art. In re Meinhardt, 157 USPQ 270 (CCPA 1968). At col. 8, line 53+, ('153 patent), patentee states "'In any of the above fertilizer granulation processes, up to about 5.0% lignosulfonate by weight may be added to the fertilizer, and it is preferred to add 0.05% to 0.7% by weight lignosulfonate in the granulation process. The lignosulfonate in either in liquid or solid form may be incorporated in the granulation process in the reaction tanks, in the recycled fines, or directly in the granulators.'" Therefore, it appears that the lignosulfonate is mixed with the fertilizer as described in the examples of the instant specification.

That the patent does not disclose the release-controlling property is correct, however, by virtue of the same materials being present and the steps having been met, this feature would have been inherent, barring any evidence to the contrary. A compound and its properties are inseparable. In re Papesch, 137 USPQ 43 (CCPA 1963). On the other hand, the fact that applicant has recognized another advantage (i.e. other than anticaking or anti-dusting) which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences



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would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant's position with respect to the USC 103 rejection over Rohwer is not well taken. Applicant states that Rowher teaches 10% phosphorus and that applicant's invention requires 97-65% ammonium phosphate. Also, that the zeolite containing fertilizer is in a liquid form and that since the publication states that the resultant fertilizer is called a "fertilizer precursor", then the concept is different from the one claimed. This is disagreed with. The publication discloses mixing zeolite and phosphate ions along with calcium carbonate in a slurry, and drying the mixture to obtain a slow-release fertilizer. This reference is but one in a combination of references that has been applied and when considered together renders obvious the subject matter as a whole.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. SAYALA whose telephone number is 571-272-1405.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "C. Sayala".

C. SAYALA  
Primary Examiner  
Group 1700.